REMARKS

Reconsideration of the present application, as amended, is respectfully requested. The application, as amended, includes claims 31, 32, 34, 36-39 and 41-54, pending and under consideration.

Interview Summary

As an initial matter, the undersigned acknowledges and thanks Examiner Collins for taking the time to attend a telephonic Examiner's Interview with the undersigned on November 5, 2004. Discussed in the Interview were proposed claim amendments that are believed to moot all rejections asserted in the outstanding Action and thereby place the claims in condition for allowance. In particular, although Applicants do not agree with many of the assertions made in the outstanding Final Action, do not agree that the finality of the Action was proper, and believe that the Examiner has not given proper weight to uncontroverted evidence of record in this case; Applicants have nevertheless above requested cancellation of claims 1-30, 35 and 40 to moot the rejections asserted against these claims in an effort to expedite allowance of the present application. Applicants have also presented amendments to claims 31, 32 and 38 that are believed to overcome the remaining rejections by mooting each of the Examiner's stated reasons for rejecting these claims under §102 and the written description requirement of §112, paragraph 1. Indeed, the reasons for these rejections that are stated in the Action imply that the very amendments presented above would overcome the rejections.

Upon entry of the claim amendments set forth above, only the subject matter of prior claims 31, 32, 35, 36, 37, 38 and 39 (some of which is now separated into new claims, as discussed further below) remains pending in this case. The only rejections asserted in the outstanding Action regarding this subject matter are the following: (1) a rejection under 35 U.S.C. §102(b) over Baum et al., and (2)

a rejection of claim 32 under the written description requirement of 35 U.S.C. §112, first paragraph. For the reasons set forth herein, which were discussed with Examiner Collins during the Interview, it is believed that the above-presented amendments overcome the rejections of these claims asserted in the outstanding Action.

Also discussed during the Examiner's Interview was Applicants' traversal of the restriction requirement that was previously asserted in this case as between the sequences set forth in the Sequence Listing. In particular, during the Interview, the undersigned requested re-entry of claims to the non-elected amino acid sequences upon allowance of this case on the basis that the sequences are all species within an allowed genus. As was discussed in the Interview, each of the respective amino acid sequences set forth in the Sequence Listing falls within the scope of the pending claims that recite "at least 70% identity to SEQ ID NO:2." This subject matter is believed to be novel and non-obvious over the art of record in the context of the pending claims and Applicants therefore believe that entry of claims to sequences within the literal scope of allowed genus claims is appropriate. Art searching that is sufficient to determine the novelty and non-obviousness of genus claims should suffice to determine the novelty and non-obviousness of claims reciting species within the genus. At the conclusion of the Interview, this request remained unanswered, and Applicants hereby respectfully renew their request for an opportunity to re-enter claims directed to said non-elected sequences before or after a Notice of Allowance is issued in this case.

At the conclusion of the Interview, Examiner Collins requested that Applicants submit a written response to the Patent Office for official presentation of the amendments and remarks discussed in the Examiner's Interview.

Remarks Regarding Cancelled Claims

Applicants have above requested cancellation of claims 1-30, 35 and 40 for the sole purpose of reducing the number of issues outstanding in the present case, as the case is now in the after-final phase of processing. All of these claims are cancelled without prejudice to Applicants' ability to further pursue patent protection for the subject matter recited therein in the present application or in a subsequent continuing application.

Remarks Regarding Restriction Requirement as Between Nucleotide and Amino Acid Sequences and Regarding Objection to Claims as reciting Non-elected Sequences

The Examiner has previously asserted a restriction requirement as between the multiple nucleotide sequences and amino acid sequences set forth in the Sequence Listing. Applicants previously traversed this requirement, and the Examiner made the requirement final. The Examiner has objected to claims 8, 12, 28, 35 and 40 because they recite non-elected sequences. Applicants have above requested that claim language reciting non-elected sequences be stricken from the pending claims, and has also cancelled claims 8, 12, 28, 35 and 40. These objections are therefore now moot; however, Applicants respectfully request an opportunity to re-enter claims directed to non-elected sequences, as discussed above.

Remarks Regarding Rejection Under 35 U.S.C. §112, 1st para. (Written Description)

In the outstanding Office Action, there is asserted a rejection of multiple claims under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. Of the rejected claims, only claim 32 remains pending. The Examiner states in the Action that, "The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention."

Without acquiescing in this rejection, it is believed that this rejection is overcome by the present amendment, in which claim 32 is amended to recite an identity level of at least 70%. As discussed with the Examiner during the Examiner's Interview, the Declaration Under 37 C.F.R. §1.132 of record in the present case sets forth identity comparisons of each amino acid sequence set forth in the Sequence Listing of this case to each other amino acid sequence in the Sequence Listing. With reference to paragraph 6 of the Declaration, these comparisons reveal that each pair has from 72.8% to 91.2% identity to one another. Applicants submit that the disclosure of nine amino acid sequences within this range of identity values when compared to one another provides the type of support called for in §112, first paragraph, for Applicants' claims that recite sequences having at least 70% identity to the reference sequence and having the recited functionality. The disclosure of nine sequences that fully represent the claimed genus is just the type of exemplary support suggested in the University of California case. As such, Applicants believe, and respectfully submit, that claims reciting "at least 70% identity to SEQ ID NO:2" satisfy the written description requirement of §112, first paragraph, and are in condition for allowance.

Remarks Regarding Rejection Under 35 U.S.C. §112, first paragraph (Enablement)

In the outstanding Office Action, multiple claims are rejected under 35 U.S.C. §112, first paragraph, upon an assertion that the specification does not reasonably provide enablement for various aspects of the invention. Without acquiescing in this rejection, Applicants submit that all claims rejected under this section of the statute have been cancelled, without prejudice, and that this rejection is therefore now moot.

Remarks Regarding Rejection of Claims Under 35 U.S.C. §102(b)

In the outstanding Office Action, claims 31-32 and 34-40 are rejected under 35 U.S.C. §102(b) as being anticipated by Baum et al. (EMBO J., 17 June 1996, Vol. 15, No. 12, pages 2988-2996). Two reasons are stated in the Action in support of this rejection, and both appear to result from the Examiner being uncomfortable with certain alternative limitations recited in the claims. It is believed that both reasons asserted in the Action are overcome by the above amendments, whereby the language indicated to be problematic has been cancelled from the claims.

First, it is stated in the Action at page 13 that:

> The rejection is maintained first because Applicants' amended claims do not expressly exclude a plant that exhibits significant loss of growth characteristics, yield, reproductive function or other morphological or agronomic characteristic compared to a non-transformed plant [because claims 31 and 38 are directed to a transformed plant that] alternatively (i) exhibits a GABA concentration in non-stress conditions of up to 0.28 milligrams GABA per gram dry weight of the plant **or** (ii) does not exhibit significant loss of growth characteristics, yield, reproductive function or other morphological or agronomic characteristic compared to a non-transformed plant. (emphasis in original).

Applicant submits that this rejection is overcome by the above amendments, whereby item (i) has been stricken from claims 31 and 38.

Second, it is stated in the Action at page 14 that:

> The rejection is also maintained because while the transformed plants described by Baum et al. that expressed a GAD enzyme that does not include a functional autoinhibitory calmodulin-binding domain were much shorter and more branched as compared to a non-transformed plant, had young developing leaves that exhibited a delay in greening and were narrower as compared to a non-transformed plant, had flowers that lacked pollen and abscised prematurely as compared to a non-transformed plant, had short stem cortex cells and exhibited continued growth as compared to a non-transformed plant, contained high steady state GABA levels and low Glu levels as compared to a non-transformed plant, and lacked normal GAD complexes and had GAD activity that was insensitive to EGTA and trifluoperazine unlike a non-transformed plant, *the transformed plants described by Baum et al. that expressed a*

> *GAD enzyme that does not include a functional autoinhibitory calmodulin-binding domain nonetheless did not exhibit significant loss of other morphological or agronomic characteristic as compared to a non-transformed plant.* (emphasis added)

Without acquiescing in the accuracy of this statement, the basis for this rejection has been overcome by the removal of the wording "or other morphological or agronomic characteristics" from the claims.

In a further attempt to clarify the claims, Applicants have also separated recitations of growth characteristics, yield, and reproductive function into separate claims. As such, each of claims 31, 32, 34 and 36-39, as amended, recites a plant that does not exhibit significant loss of reproductive function; each of claims 41-47 recites a plant that does not exhibit significant loss of yield; and each of claims 48-54 recites a plant that is not significantly stunted compared to a non-transformed plant. Applicants believe that all of these claims recite subject matter that is novel over Baum et al.

In summary, without forfeiting the right to later pursue the subject matter of the original claims, Applicants have above-requested entry of amendments resulting in claims 31, 32, 34, 36-39 and 41-54 that clearly recite subject matter that is not anticipated by the Baum et al. reference. These claims, as amended, recite subject matter that is novel over Baum et al. because the only transformed plant described by Baum et al. that expressed a GAD enzyme that did not include a functional autoinhibitory calmodulin-binding domain exhibited significant loss of growth characteristics, yield and reproductive function compared to a non-transformed plant. Because Applicants' claims, as amended, expressly excludes plants having these characteristics, the claims cannot be found to be anticipated by the cited reference. As stated above, the present invention involves the recognition that, although excessive overproduction of GABA in a plant causes stunting and other undesirable agronomic and/or morphological characteristics, non-excessive overproduction of GABA in a plant

results in beneficial characteristics, such as, for example, enhanced stress resistance or other desirable morphological and/or agronomic characteristics. (See specification, page 13, lines 16-21).

In view of the above, Applicants submit that the Baum et al. reference cannot properly be found to anticipate the pending claims, as amended. Applicants therefore respectfully request withdrawal of this rejection.

Remarks Regarding Rejection of Claims Under 35 U.S.C. §103(a)

In the outstanding Office Action, multiple claims are rejected under 35 U.S.C. §103(a) as being unpatentable over Baum et al. (EMBO J., 17 June 1996, Vol. 15, No. 12, pages 2988-2996) in view of McKenzie et al. (Plant Physiology, March 1998, Vol. 116, No. 3, pages 969-977). Without acquiescing in this rejection, Applicants submit that all claims rejected under this section of the statute have been cancelled, without prejudice, and that this rejection is therefore now moot.

Closing

In view of the above, Applicants respectfully submit that the rejections stated in the outstanding Action are overcome and that the present application, as amended and including claims 31, 32, 34, 36-39 and 41-54, is in condition for allowance. Action to that end is respectfully requested. If there are any remaining issues that can be addressed telephonically, the Examiner is invited to contact the undersigned to discuss the same.

Respectfully submitted:

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